IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.:	**10/829,060**	Examiner:	**Hoa Cao Nguyen**
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Filed:	**04/20/2004**	Art Unit:	**2841**
Title:	**Bonding Structure With Buffer Layer And Method Of Forming The Same**		

Commissioner for Patents
P.O. Box 1450
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Sir:

AMENDMENT A

In response to the Office Action mailed **08/23/2006**, please amend the above-identified application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 4 of this paper.

Remarks begin on page 7 of this paper.

AMENDMENTS TO THE SPECIFICATION:

Page 6, amend paragraph [0014] as:

[0014] FIG. 1 shows a cross-sectional view of the bonding structure with a buffer layer before bonding according to the invention. In this embodiment, there are metal pads 103a and 103b on a surface of the first substrate 101 shown in the upper figure of FIG. 1. A protection layer 105 is covered on that surface of the first substrate 101. A first adhesive metal layer 110 is formed on the metal pads 103a and 103b. Buffer layers 107, 107a and 107b are respectively coated on the protection layer 105 and the first adhesive metal layer 110 over the metal pads 103a and 103b. A first metal layer 109 covers buffer layers 107, 107a and 107b.

Pages 6-7, amend paragraph [0015] as:

[0015] Metal pads 103a and 103b are used as conducting circuit for the first substrate 101. They can be made of aluminum (Al) or copper (Cu). The protection layer 105 protects the integrated circuit on the first substrate 101. The first substrate can be a ~~silicone~~ silicon (Si) substrate. The material for the buffer layer can be polyimide. The material for the first metal layer can be chosen from one of gold (Au), aluminum or copper. It is worthy to mention that the buffer layer coated on the first adhesive metal layer over the metal pads and the buffer layer on the protection layer are independently distributed in the embodiment.

Page 7, amend paragraph [0020] as:

[0020] FIG. 4 illustrates another cross-sectional view of the bonding structure with a buffer layer before bonding according to the invention. The difference between this embodiment and the embodiment illustrated in FIG. 1 is that the buffer layer coated on the first adhesive metal layer over the metal pads and the buffer layer on the protection layer are connected, as shown in label 401 of FIG. 4.

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A bonding structure with a buffer layer, comprising:

a first substrate;

a plurality of metal pads on a surface of said first substrate;

a protection layer covering on said surface of said first substrate;

a first adhesive metal layer being formed on said ~~plural~~ plurality of metal pads;

a buffer layer being coated on said protection layer and said ~~plural of metal pads~~ first adhesive metal layer;

a first metal layer covering said buffer layer, said first metal layer being independently distributed on surface areas of said buffer layer opposite to said protection layer and said first adhesive metal layer;

a second substrate having a plurality of electrodes thereon; and

a bonding layer, said bonding layer and said ~~plural~~ plurality of electrodes being independently distributed on said second substrate;

wherein said first metal layer, said ~~plural~~ plurality of electrodes and said bonding layer are bonded ~~directly~~ to complete said bonding structure.

2. (Currently Amended) The bonding structure as claimed in claim 1, wherein ~~said bonding is~~ said first metal layer, said plurality of electrodes and said bonding layer are bonded by direct bonding.

3. (Currently Amended) The bonding structure as claimed in claim 1, wherein said

plurality of electrodes on said second substrate are respectively aligned to said plurality of metal pads on said surface of said first substrate.

4. (Currently Amended) The bonding structure as claimed in claim 1, wherein said buffer layer coated on said first adhesive metal layer over said plurality of metal pads and said buffer layer on said protection layer are independently distributed.

5. (Currently Amended) The bonding structure as claimed in claim 1, wherein said buffer layer coated on said first adhesive metal layer over said plurality of metal pads and said buffer layer on said protection layer are connected.

6. (Currently Amended) The bonding structure as claimed in claim 1, wherein said first substrate is a ~~silicone~~ silicon substrate.

7. (Currently Amended) The bonding structure as claimed in claim 1, wherein said second substrate is one of glass substrate, polymer substrate, ~~silicone~~ silicon substrate or ceramic substrate.

8. (Original) The bonding structure as claimed in claim 1, wherein the material for said first metal layer is chosen from one of gold, aluminum or copper.

9. (Original) The bonding structure as claimed in claim 1, wherein the material for said buffer layer is polymer.

10. (Original) The bonding structure as claimed in claim 1, wherein under-fill is further applied between said first substrate and said second substrate to increase the reliability of said bonding structure.

11-13. (Cancelled).

14. (Original) The bonding structure as claimed in claim 3, wherein a second metal layer is formed on said bonding layer located on said second substrate.

15. (Original) The bonding structure as claimed in claim 3, wherein a second metal layer is formed on said plurality of electrodes and on said bonding layer located on said second substrate.

16. (Original) The bonding structure as claimed in claim 4, wherein a second metal layer is formed on said bonding layer located on said second substrate.

17. (Currently Amended) The bonding structure as claimed in claim 4, wherein a second metal layer is formed on said ~~plural~~ of electrodes and on said bonding layer located on said second substrate.

18-29. (Cancelled).